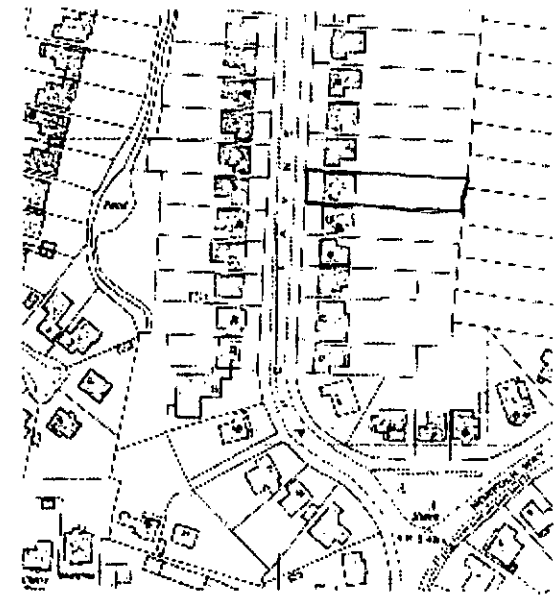
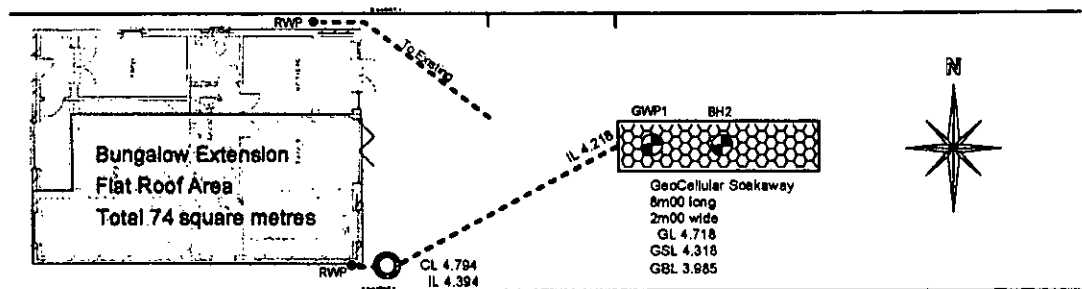
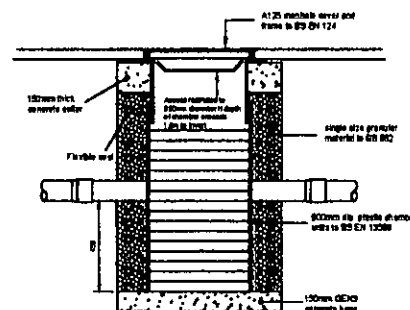
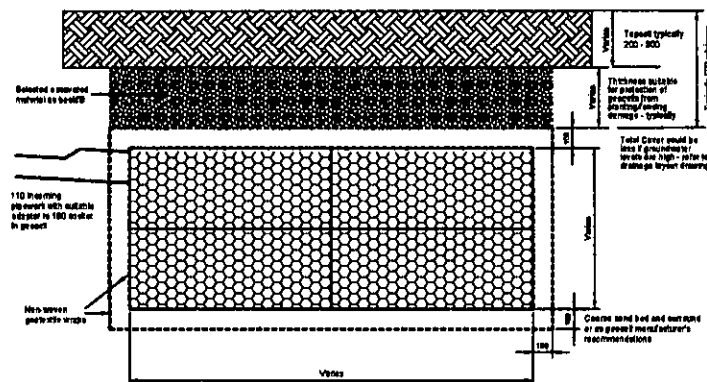


Location plan - scale 1:1250



Typical Geocellular soakaway Unit (for use in soft landscaped areas)



Typical Silt Trap Inspection Chamber Detail
(for use in soft landscaped areas and footways)

Construction Details - scale 1:25

As detailed from the British Geological Survey the Superficial Geological ground conditions here indicates River Terrace Deposits of clay, silt and sand overlying Bedrock of Upper Chalk. The River Terrace Deposits were encountered almost immediately below the Topsoil and consisted of soft silty Clay to soft fine-sandy Clay and soft medium-gritty Clay with chalk fragments, becoming chalky sandy Clay with some small Gravel at depth. The Upper Chalk was not encountered in the deeper groundwater monitoring Borehole.

In mid December 2018 a test Borehole was drilled to a depth of 1.57 metres below ground level and groundwater was initially encountered at 1480mm bgl, quickly rising to 1088mm bgl. An Open Head Piezometer (a slotted Groundwater Measuring Pipe) was installed at a depth of 1.55 metres below ground level at this position. Groundwater was monitored on a weekly basis from mid December 2018 to late March 2019. A highest level of groundwater of 789mm bgl in 3.82BAOD was recorded in early February 2019 with other peaks occurring in late December 2018 and early March 2019. This indicating that only a shallow infiltration structure will be possible.

The drainage design is based on percolation tests carried out, during the winter period of early January 2019 to mid January 2019, to BRE365 principles, within a second shallow test pit at depths of ~850mm (ie above their respective groundwater readings). An minimum soil infiltration rate, from the three tests, of 7.117 E-06 metres/second was obtained, to which a Factor of Safety of 2 has been applied.

A long rectangular soakaway, using 333mm deep, SCS Aquavox-D or similar Geocells, has been designed, 6.0 metres long x 2.0 metres wide, which will be suitable to drain the proposed additional roof area of 77.0 m². The soakaway will be constructed with a 1 in 100 year rainfall event plus 40% climate change advice. The existing soakaway and is assumed to provide a soakaway in the rear garden close to the house. The proposed soakaway should be sited a minimum of 5 metres from any building to avoid any saturation of the ground and settlement affecting the structure and 5 metres from the position of any existing soakaways.

Winter Soil Infiltration Testing Results :-

January 4th 2019 -- 7.117 E-06

January 7th 2019 -- 9.875 E-06

January 11th 2019 -- 1.343 E-05

Minimum Rate used of 7.117 E-06

Factor of Safety used of 2.0

KEY

Proposed surface water drainage.
100mm diameter pipe.
Minimum fall of 1:100



Soil Infiltration Test Borehole



Groundwater Monitoring Point



Proposed silt trap inspection chamber



Proposed Geocellular Soakaway.
18.0 square metres footprint of
333mm deep geocells.

GL 9.920 Ground level at detailed items

CL 10000 Cover level of surface water manholes

L. 2.000 Invert level of surface water drainage

055 #000 Soft (top) level of Geocell structure

GEL #### Base level of Geocell structure

+ 4.718 All levels are to AOD unless otherwise stated

NOTE

This drawing had been produced for discharge of planning conditions only. All levels and details to be checked for Building Regulations approval and construction purposes

Mate GeoTechnic Services

02	Full Testing Results	RC	18-4-19
01	Original	RC	15-4-19
Rev	Description	Dm.	Date

Project	Bungalow Extension
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Bungalow Extension

25 the Layne
Elmer Sands
PO22 6JL

Client _____

Mr Jason Deane

Drawing Title	Surface Water Drainage
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Scale	As Shown	Drawing Original	A3
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Drawing MGS - M/131/17-rev02